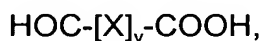


Patent Claims

1. A method for producing temporarily crosslinked cellulose ethers having
lump-free stirrability and solvation delay on stirring into aqueous
5 solutions, in which cellulose ethers having free OH groups are first
admixed in water or in an organic suspension medium at a temperature
in the range from 0 to 40 °C with chemical compounds containing at
least one aldehyde group and at least one acid group, and in which the
acid groups and aldehyde groups of the chemical compounds are then
10 reacted with the OH groups of the cellulose ethers to form an ester
bond or hemiacetal bond, the cellulose ether not being dissolved in the
water or the suspension medium.
2. The method as claimed in claim 1, wherein the acid groups and
15 aldehyde groups of the chemical compounds are reacted with the OH
groups of the cellulose ethers to form an ester or hemiacetal bond.
3. The method as claimed in claim 1 or 2, wherein the chemical
compound having at least one acid group and at least one aldehyde
20 group is a compound of the general chemical formula



25 where X is a divalent alkylene group which has from 1 to 6 carbon
atoms and can be saturated and straight-chain or branched, or a
divalent saturated cyclo- or bicycloalkylene group having from 3 to 10
carbon atoms, or a divalent arylene group having from 6 to 10 carbon
atoms, where these groups can further bear one or more substituents
R which, in addition to hydrogen, can also be alkyl radicals having up
30 to 4 carbon atoms, oxyalkyl radicals having up to 4 carbon atoms, OH
groups, halogens, nitro groups, nitrile groups or mixtures thereof, and
where y can be either 0, 1 or 2.

4. The method as claimed in one or more of claims 1 to 3, wherein the chemical compound having at least one acid group and at least one aldehyde group is preferably glyoxylic acid.
- 5 5. The method as claimed in one or more of claims 1 to 4, wherein the amount of chemical compound containing at least one aldehyde group and at least one acid group is in the range from 0.01 to 0.1 mol per mole of cellulose ether, preferably from 0.02 to 0.08 mol per mole of cellulose ether.
- 10 6. The method as claimed in one or more of claims 1 to 5, wherein, as cellulose ethers having free OH groups, use is made of methylcellulose, ethylcellulose, carboxymethylcellulose, hydroxyethylcellulose, hydroxypropylcellulose, methylhydroxyethylcellulose, methylhydroxypropylcellulose or ethylhydroxyethylcellulose.
- 15 7. The method as claimed in one or more of claims 1 to 6, wherein the cellulose ethers are admixed with the compound containing at least one aldehyde group and at least one acid group over a time period in the range of from 10 to 60 min, preferably from 20 to 40 min.
- 20 8. The method as claimed in one or more of claims 1 to 7, wherein the acid groups and the aldehyde groups are reacted with the OH groups of the cellulose ethers at a temperature in the range from 50 to 150 °C, preferably from 60 to 130 °C, over a time period in the range of from 1 to 120 min, preferably from 10 to 90 min, particularly preferably from 10 to 60 min.
- 25 9. The method as claimed in one or more of claims 1 to 8, wherein, as organic suspension media in which the cellulose ethers are admixed with the chemical compound containing at least one aldehyde group and at least one acid group, use is made of, in particular, acetone,
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5 lower alcohols having from 1 to 4 carbon atoms, diethyl ether and also ethers having alkyl chains having up to 8 carbon atoms per chain, or cyclic ethers such as dihydropyran, dihydrofuran, tetrahydrofuran or dioxane, ethylene glycol dimethyl ether, diethylene glycol dimethyl ether, triethylene glycol dimethyl ether, tetraethylene glycol dimethyl ether or straight-chain and branched hydrocarbons having up to 12 carbon atoms or cyclic compounds such as cyclopentane or cyclohexane, or aromatic compounds such as toluene, benzene or alkyl-substituted toluenes or benzenes.

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